

What Is Claimed Is:

1. A backlight device for a liquid crystal display, comprising:

a substrate;

a light source including a first plurality of green light emitting diodes, a second plurality of blue light emitting diodes, and a third plurality of red light emitting diodes arranged along a first row direction on the substrate in an offset matrix-type configuration,

wherein white light emitting diodes are disposed at both ends of the configuration of the green, blue, and red light emitting diodes.

2. The device according to claim 1, wherein a first total number of the first plurality of green light-emitting diodes is larger than a second total number of the second plurality of blue light emitting diodes, and a third total number of the third plurality of red light emitting diodes is smaller than each of the first and second total numbers.

3. A backlight device for a liquid crystal display, comprising:
 - a substrate; and
 - a light source including a plurality of blocks each having a plurality of green, blue, and red light emitting diodes disposed on the substrate in an offset matrix-type configuration, and white light emitting diodes disposed at both ends of the configuration of the green, blue, and red light emitting diodes.
4. The device according to claim 3, wherein each block includes a total of six of the green, blue, and red light-emitting diodes.
5. The device according to claim 3, wherein each block includes three green light-emitting diodes, two blue light-emitting diodes, and one red light-emitting diode.
6. The device according to claim 3, wherein each block includes a first row having a first sequential arrangement of the plurality of light-emitting diodes in a first order of the green, blue, and green light-emitting diodes, and a second row having a second sequential arrangement of the plurality of light-emitting diodes in a second order of the blue, green, and red light-emitting diodes.

7. A backlight device for a liquid crystal display, comprising:

a light-guiding plate disposed at a rear of a liquid crystal display panel of the liquid crystal display;

a first light source for emitting light along at least one side of the light-guiding plate, the first light source having a first sequential arrangement of green, blue, and green light emitting diodes along a first row direction, and at least one white light emitting diode at one end of the first sequential arrangement of the green, blue, and green light emitting diodes;

a second light source for emitting light along the at least one side of the light-guiding plate, the second light source having a second sequential arrangement of blue, green, and red light emitting diodes along a second row direction different from the first row direction, and at least one white light emitting diode at one end of the second sequential arrangement of the blue, green, and red light emitting diodes;

a housing adjacent to the light-guiding plate affixing the first and second light sources and concentrating the light emitted from the first and second light sources along a first light direction; and

a reflecting plate disposed at a lower portion of the light-guiding plate for reflecting light leaking along a side of the liquid crystal display panel.

8. The device according to claim 7, wherein the respective white light-emitting diodes of the first and second light sources are arranged at the ends of the first and second row directions.
9. The device according to claim 7, wherein the housing includes aluminum.
10. The device according to claim 7, wherein the first and second light sources are arranged along both sides of the light-guiding plate.
11. A backlight device for a liquid crystal display, comprising:
- a main light-guiding plate disposed at a rear of a liquid crystal display panel of the liquid crystal display;
 - a sub light-guiding plate disposed on an incident surface along one side of the main light-guiding plate;
 - a first light source for emitting light along one side of the sub light-guiding plate, the first light source includes a first sequential arrangement of green, blue, and green light emitting diodes along a first row direction, and at least one white light emitting diode at an end of the first sequential arrangement of the green, blue, and green light emitting diodes;

a second light source for emitting light along the one side of the sub light-guiding plate, the second light source includes a second sequential arrangement of blue, green, and red light emitting diodes along a second row direction different from the first row direction, and at least one white light emitting diode at an end of the second sequential arrangement of the blue, green, and red light emitting diodes;

a housing adjacent to the main light-guiding plate affixing the first and second light sources and concentrating the light emitted from the first and second light sources along a first light direction; and

first and second reflecting plates disposed at a lower portion of the main light-guiding plate for reflecting light leaking along a side of the liquid crystal display panel.

12. The device according to claim 11, wherein the second reflecting plate includes aluminum coated with silver.

13. A method of fabricating a backlight device for a liquid crystal display, comprising:

forming a light source including a first plurality of green light emitting diodes, a second plurality of blue light emitting diodes, and a third plurality of red

light emitting diodes arranged along a first row direction on a substrate in an offset matrix-type configuration,

wherein white light emitting diodes are disposed at both ends of the configuration of the green, blue, and red light emitting diodes.

14. The method according to claim 13, wherein a first total number of the first plurality of green light-emitting diodes is larger than a second total number of the second plurality of blue light emitting diodes, and a third total number of the third plurality of red light emitting diodes is smaller than each of the first and second total numbers.

15. A method of fabricating a backlight device for a liquid crystal display, comprising:

forming a light source including a plurality of blocks each having a plurality of green, blue, and red light-emitting diodes disposed on the substrate in an offset matrix-type configuration, and white light-emitting diodes disposed at both ends of the configuration of the green, blue, and red light-emitting diodes.

16. The method according to claim 15, wherein each block includes a total of six of the green, blue, and red light-emitting diodes.

17. The method according to claim 15, wherein each block includes three green light emitting diodes, two blue light emitting diodes, and one red light emitting diode.

18. The method according to claim 15, wherein each block includes a first row having a first sequential arrangement of the plurality of light emitting diodes in a first order of the green, blue, and green light emitting diodes, and a second row having a second sequential arrangement of the plurality of light emitting diodes in a second order of the blue, green, and red light emitting diodes.

19. A method of fabricating a backlight device for a liquid crystal display, comprising:

forming a light-guiding plate at a rear of a liquid crystal display panel of the liquid crystal display;

forming a first light source for emitting light along at least one side of the light-guiding plate, the first light source having a first sequential arrangement of green, blue, and green light-emitting diodes along a first row direction, and at least one white light-emitting diode at one end of the first sequential arrangement of the green, blue, and green light-emitting diodes;

forming a second light source for emitting light along the at least one side of the light-guiding plate, the second light source having a second sequential arrangement of blue, green, and red light emitting diodes along a second row direction different from the first row direction, and at least one white light emitting diode at one end of the second sequential arrangement of the blue, green, and red light emitting diodes;

forming a housing adjacent to the light-guiding plate affixing the first and second light sources and concentrating the light emitted from the first and second light sources along a first light direction; and

forming a reflecting plate at a lower portion of the light-guiding plate for reflecting light leaking along a side of the liquid crystal display panel.

20. The method according to claim 19, wherein the respective white light-emitting diodes of the first and second light sources are arranged at the ends of the first and second row directions.

21. The method according to claim 19, wherein the housing includes aluminum.

22. The method according to claim 19, wherein the first and second light sources are arranged along both sides of the light-guiding plate.

23. A method of fabricating a backlight device for a liquid crystal display, comprising:

forming a main light-guiding plate at a rear of a liquid crystal display panel of the liquid crystal display;

forming a sub light-guiding plate on an incident surface along one side of the main light-guiding plate;

forming a first light source for emitting light along one side of the sub light-guiding plate, the first light source includes a first sequential arrangement of green, blue, and green light emitting diodes along a first row direction, and at least one white light emitting diode at an end of the first sequential arrangement of the green, blue, and green light emitting diodes;

forming a second light source for emitting light along the one side of the sub light-guiding plate, the second light source includes a second sequential arrangement of blue, green, and red light emitting diodes along a second row direction different from the first row direction, and at least one white light emitting diode at an end of the second sequential arrangement of the blue, green, and red light emitting diodes;

forming a housing adjacent to the main light-guiding plate affixing the first and second light sources and concentrating the light emitted from the first and second light sources along a first light direction; and

forming first and second reflecting plates at a lower portion of the main light-guiding plate for reflecting light leaking along a side of the liquid crystal display panel.

24. The method according to claim 23, wherein the second reflecting plate includes aluminum coated with silver.